Date=30/07/2020
Lecture By=Shubham Joshi
Subject ⇒ Questions solving

IN PREVIOUS LECTURE **(QUICK RECAP) Date-29/07/2020**	**In Today's Lecture (Overview)**
What is Upper Bound?? What Is Lower bound?? Questions that were Solved In Lecture	Question solution session

Question solution session

Question=1
Find peak element of given an array(Question from leetcode)

explanation
A peak element is an element that is greater than its neighbors.

Given an input array nums, where nums[i] ≠ nums[i+1], find a peak element and return its index.

The array may contain multiple peaks, in that case return the index to any one of the peaks is fine.
Example 1:

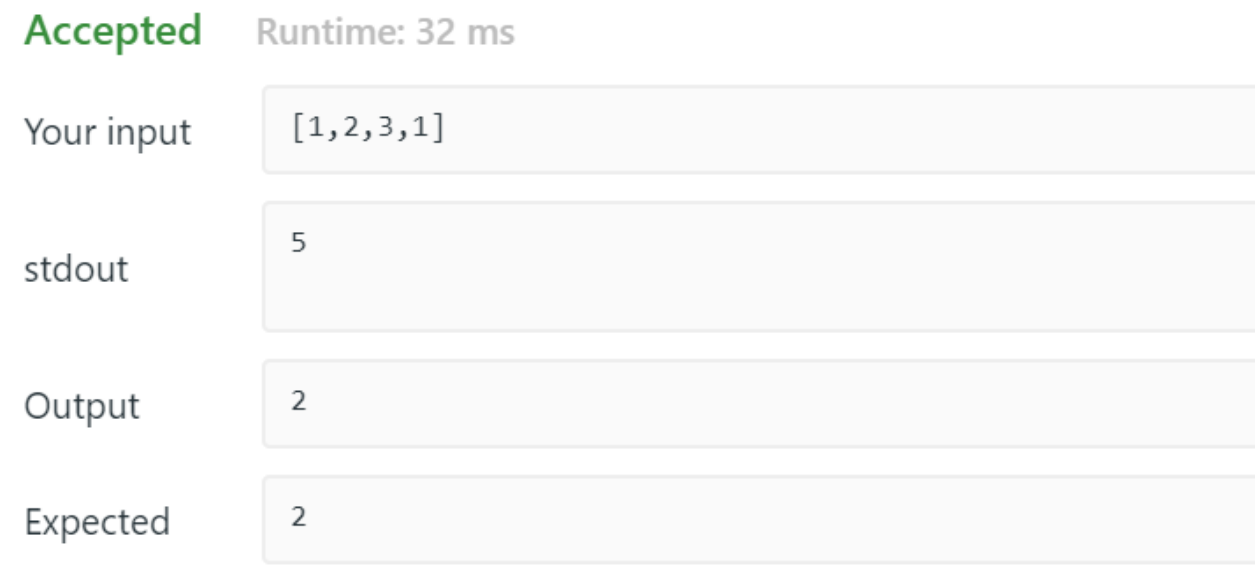
Input: nums = [1,2,3,1]
Output: 2
Explanation: 3 is a peak element and your function should return the index number 2.

Code

```
def findPeakElement(self, nums):
        if(len(nums) == 0):
            return -1
        elif(len(nums) == 1):
            return 0
        elif(len(nums) == 2):
            return nums.index(max(nums))
        else:
            l = 0
```

```
            r = len(nums)-1
            while(l < r):
                mid = (l+r)//2
                if(nums[mid] < nums[mid+1]):
                    l = mid+1
                else:
                    r = mid
        return l
self = None
xyz = Solution()
print(xyz.findPeakElement([1, 2, 1, 3, 5, 6, 4]))
```

Output



This solution is from Leetcode
Question link https://leetcode.com/problems/find-peak-element/

Question=2
Given An Array print all parentheses of it(This code's approach was discussed but was not solved it was given as homework)
Given n pairs of parentheses, write a function to generate all combinations of well-formed parentheses.

For example, given n = 3, a solution set is:

[

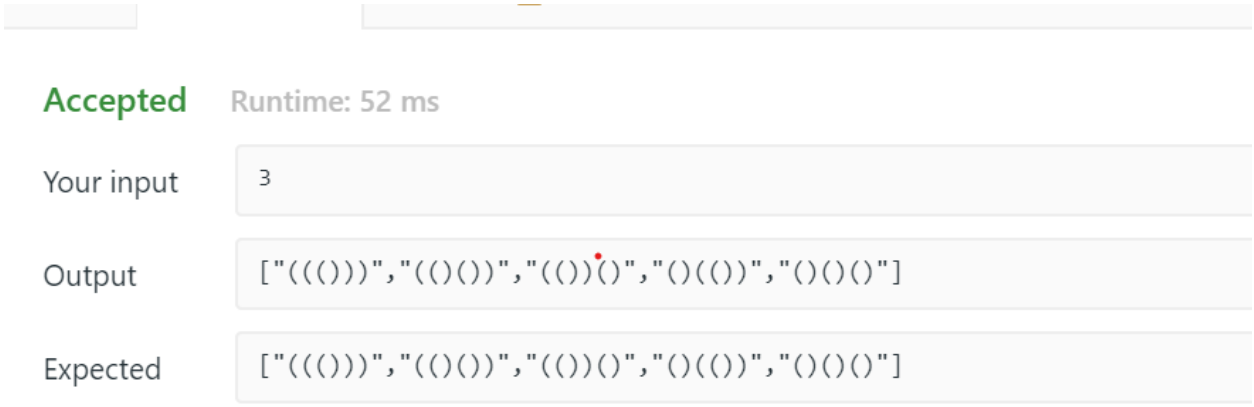
"((()))",
"(()())",
"(())()",
"()(())",
"()()()"
]

Code

```
def generateParenthesis(self, N):
    ans = []
    def backtrack(S = '', left = 0, right = 0):
        if len(S) == 2 * N:
            ans.append(S)
            return
            if left < N:
                backtrack(S+'(', left+1, right)
            if right < left:
                backtrack(S+')', left, right+1)

    backtrack()
    return ans
```

Output



Question Link https://leetcode.com/problems/generate-parentheses/

“
In this session only shown above problems were solve and nothing else
” :)

Questions for self practice / Assignments and CC’s

Q1. https://leetcode.com/problems/two-sum/ Solve it in O(n2) O(nlogn), O(n)

Q2. https://leetcode.com/problems/generate-parentheses/